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Geoscience Bulletin Board – 6 May 2019 – compiled by Elaine J. Hanford

Leonardo da Vinci – Renaissance artist & pioneering Geologist

- <https://www.forbes.com/sites/davidbressan/2019/05/02/leonardo-da-vincis-earth-shattering-insights-about-geology/#6a1d8c046695>

2nd biggest found uncut diamond in history

- <https://www.msn.com/en-us/video/viral/second-biggest-uncut-diamond-in-history-has-been-found/vi-BBWjUDM>

Diamonds are tears of the gods

- <https://blogs.scientificamerican.com/rosetta-stones/diamonds-tears-of-the-gods/>

Largest gold nugget named “Welcome Nugget” was found 150 years ago

- <https://www.msn.com/en-us/money/markets/the-most-gigantic-gold-finds-of-all-time/ss-BBTQYUa>

Planetary geology: how & why planets “die”

- <https://www.space.com/planet-death.html>

Permit applications still being processed for seismic testing in the Atlantic - court blocked drilling

- <https://www.reuters.com/article/us-usa-oil-offshore/u-s-still-processing-atlantic-seismic-permits-despite-drilling-plan-delay-idUSKCN1S526M>

Research links series of California EQs with heavy snowmelt during wet winter – cause & effect?

- <https://www.latimes.com/local/lanow/la-me-snowmelt-earthquake-activity-volcano-20190426-story.html>

Analysis of the bone tissue structure & fossilization process of dinosaur remains at La Cantalera-1

- <https://www.heritagedaily.com/2019/04/the-upv-ehu-analyses-the-fossilization-process-of-the-dinosaur-remains-at-la-cantalera-1-teruel/123541>

Analysis of real-time glacial behavior – temp, pressure, stress, weather & subglacial movement

- <https://www.southampton.ac.uk/news/2019/04/retreating-glaciers-global-warming.page>

Geological analysis to determine formation, genetic mechanism, protection & utilization of Danxia landform in northwest Shaanxi Province, China

- http://www.xinhuanet.com/english/2019-04/28/c_138019249.htm

Evolution of South American mammals during the Late Miocene episode of global cooling

- <https://phys.org/news/2019-04-climate-grasses-teeththe-evolution-south.html>

Using models instead of studying actual geologic events – remember models have limitations

- <https://www.nature.com/articles/s41561-019-0365-z>

Bright purple aurora called STEVE caused by combination of conditions

- https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=298465&org=GEO&from=news

What was the universe like before the Big Bang?

- <http://www.sci-news.com/physics/universe-before-big-bang-07140.html>

Tiny piece of building blocks from which comets form found inside primitive meteorite

- <https://asunow.asu.edu/20190415-discoveries-asu-tiny-fragment-comet-found-inside-meteorite>

Three factors critical in rise of mammal communities following emergence during Age of Dinosaurs

- http://www.spacedaily.com/reports/New_study_sheds_light_on_the_rise_of_mammals_999.html

Serendipitous discovery of ROZE – new instrument to measure atmospheric ozone

- http://www.spacedaily.com/reports/NASA_Instrument_to_More_Accurately_Measure_Ozone_Discovered_by_Accident_999.html

“Seasonal memory” in the ocean affects atmospheric circulation & Arctic ice

- http://www.spacedaily.com/reports/Oceans_seasonal_memory_affects_Arctic_climate_change_999.html

Detailed gravity measurements made by GRACE help understanding of global climate patterns

- http://www.terraily.com/reports/GRACE_mission_data_contributes_to_our_understanding_of_climate_change_999.html

Tracking the “Great Whirl” – ocean vortex that forms annually off the coast of East Africa

- http://www.spacedaily.com/reports/Scientists_track_giant_ocean_vortex_from_space_999.html

Dinosaur wings may have flapped during running before evolving for flight

- <https://www.sciencedaily.com/releases/2019/05/190502143530.htm>

Early humans made “imitation amber”

- <https://www.sciencedaily.com/releases/2019/05/190501141115.htm>

Stimulation technique to minimize induced seismicity during geothermal deep well development

- <https://www.sciencedaily.com/releases/2019/05/190501141108.htm>

Computer model suggests EQs triggered well beyond fluid injection zones

- <https://phys.org/news/2019-05-earthquakes-triggered-fluid-zones.html>

Explaining “Carlin-type gold deposits” where gold occurs with arsenic hidden in pyrite

- <https://phys.org/news/2019-05-invisible-gold-puzzle.html>

Explosive volcanic eruptions were 3 to 8 times more frequent during peak of Late Paleozoic Ice Age

- <https://phys.org/news/2019-05-explosive-volcanism-ice-age-lessons.html>

Large Mesozoic tree fossil found in Kharapathar area of India

- <https://www.aninews.in/news/national/general-news/shimla-tree-fossil-belonging-to-mesozoic-geological-era-found20190502121430/>

Submarine sediment flows that transport oxygen & nutrients to the sea floor also transport microplastics

- <https://phys.org/news/2019-05-microplastics-accumulate-hotspots-deep-sea-life.html>

Groundwater being rapidly depleted by humans in the Kumudvathi River Basin in India

- <http://www.newindianexpress.com/cities/bengaluru/2019/may/02/groundwater-near-kumudvathi-depleting-fast-1971636.html>

“Fire-breathing” mountain in Turkey is fueled by deep-Earth methane production

- <https://www.livescience.com/65386-abiotic-methane-makes-mountains-breathe-fire.html>

Book Review: “Geology of the Lassen Country”

- <https://www.times-standard.com/2019/04/26/local-publisher-releases-new-geological-guide/>

Hennepin County geologic atlas updated by Minnesota Geological Survey

- https://www.swnewsmedia.com/eden_prairie_news/news/local/hennepin-county-s-new-geologic-atlas-shows-what-s-underneath/article_1f40f1d9-eaf7-5128-95e0-ffe5a8d7bc09.html

Another rumor of the impending eruption of Yellowstone caldera

- <https://www.forbes.com/sites/robinandrews/2019/05/03/another-scary-rumor-about-yellowstone-has-appeared-heres-what-you-need-to-know/#76d1df8130ee>

99 myo millipede discovered in Burmese amber using 3D x-ray microscopy

- <https://www.sciencedaily.com/releases/2019/05/190502100822.htm>

Summary of Conference on Machine Learning in Geosciences

- <https://eos.org/meeting-reports/machine-learning-in-geoscience-riding-a-wave-of-progress>

Injection of fracking fluids causes extensive zone of EQs

- <http://www.digitaljournal.com/news/environment/fracking-subsurface-fluid-injection-causes-earthquakes/article/549106>
- <https://phys.org/news/2019-05-earthquakes-triggered-fluid-zones.html>

Origin of “Geology” dates to 1603 in the last Will of an Italian naturalist

- <https://www.forbes.com/sites/davidbressan/2016/05/18/the-origin-of-geological-terms-geology/#55c29ef97fac>

Deep-sea creatures build their own armor to withstand crushing pressures at depth

- <https://www.sciencealert.com/tiny-deep-sea-crustaceans-build-their-own-aluminium-armor-to-survive-ocean-pressure>

Improved understanding of volcanoes needed to predict eruptions

- <https://www.bbc.com/news/uk-scotland-edinburgh-east-fife-48148736>

Simulation exercise predicts asteroid impact would flatten New York when it explodes above Central Park

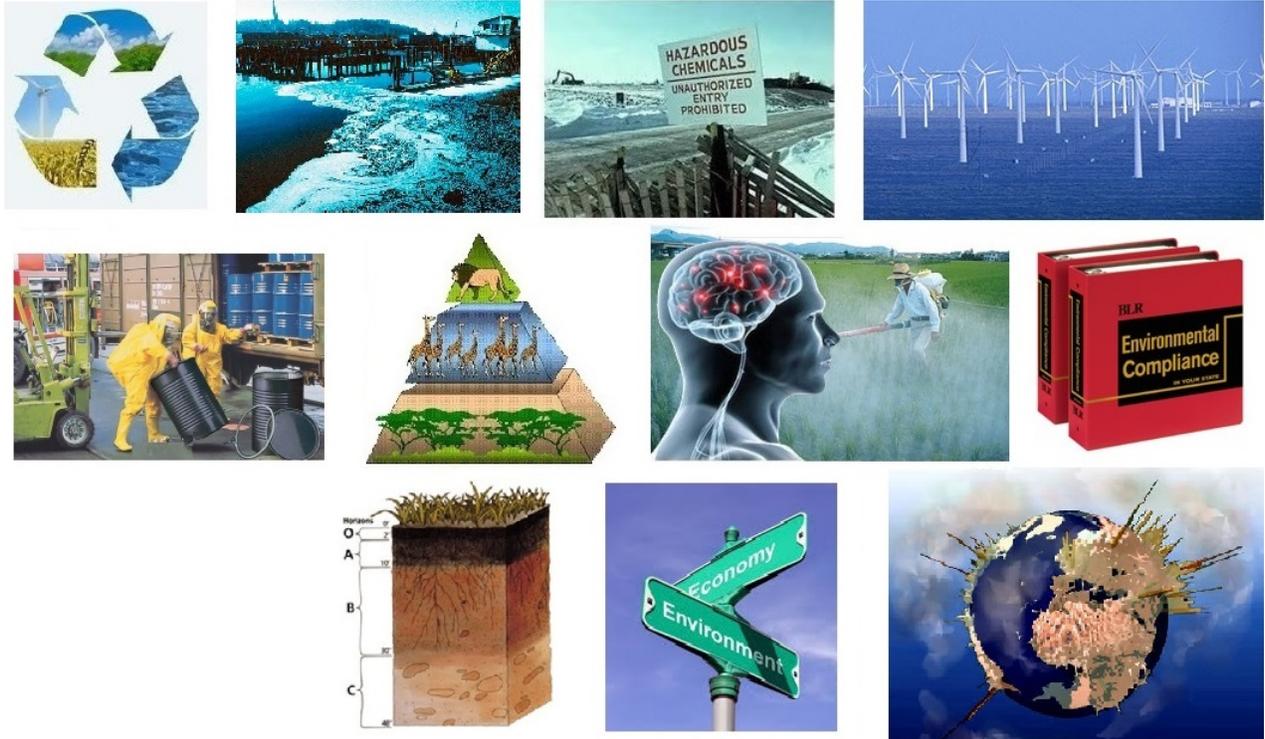
- <https://phys.org/news/2019-05-killer-asteroid-flattens-york-simulation.html>

Special adaptations in teeth, jaws & head crests were crucial to evolutionary success of duck-billed dinosaurs

- <https://www.sciencedaily.com/releases/2019/05/190502104822.htm>

Wyoming State Geological Survey issues pamphlet on Geology of Guernsey State Park

- <https://content.govdelivery.com/accounts/WYSGS/bulletins/241e8fd>
- Pamphlet: <https://www.wsgs.wyo.gov/products/wsgs-2019-ip-15.pdf>



Environmental Science Bulletin Board – 6 May 2019 – compiled by Elaine J. Hanford

Vaccinations may reduce impact of white-nose syndrome in bats

- <https://www.usgs.gov/news/vaccination-may-help-protect-bats-deadly-disease>
- Paper: <https://www.nature.com/articles/s41598-019-43210-w.epdf>

EPA updates “Planning for Natural Disaster Debris”

- <https://www.coastalreview.org/2019/04/epa-updates-disaster-debris-planning-guide/>
- <https://www.epa.gov/homeland-security-waste/guidance-about-planning-natural-disaster-debris>
- Guide: https://www.epa.gov/sites/production/files/2019-04/documents/final_pndd_guidance_0.pdf

2019 National Geographic travel photo contest entries

- <https://www.nationalgeographic.com/travel/contests/travel-photo-contest-2019/gallery/week-6-all/1/>

California population growth slowest in state history result of many factors

- <https://www.msn.com/en-us/news/us/californias-population-growth-is-the-slowest-in-recorded-history/ar-AAAM5qx>

Officials in LA have been drinking “green new deal” kool-aid – “sustainability” is a myth but they have a plan

- <https://www.latimes.com/business/la-fi-garcetti-green-new-deal-los-angeles-20190429-story.html>
- <https://thehill.com/policy/energy-environment/441190-los-angeles-unveils-plan-aiming-for-all-emission-free-vehicles-by>
- http://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf

Zinc processing plant fire prompts evacuations & air quality concerns - Rutherford County, North Carolina

- <https://www.msn.com/en-us/news/us/fire-at-zinc-processing-plant-prompts-evacuations-amid-concerns-over-air-quality/ar-BBWpc2n>

New 16B gallon Trampas Canyon Reservoir in California to cost estimated \$123M when completed in 2020

- <https://www.thecapistranodispatch.com/big-dig-trampas-canyon-reservoir-serve-south-countys-largest-water-project/>
- <http://smwd.com/313/Trampas-Reservoir>

“Spike 150” will commemorate the driving of the ‘golden spike’ to mark transcontinental railroad

- <https://kutv.com/news/local/ogden-prepares-for-heritage-festival-150th-anniversary-of-transcontinental-railroad>
- <https://spike150.org/>

Perspective: Federally-funded infrastructure must be flood resilient

- <https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2019/04/federally-funded-infrastructure-must-be-flood-ready>

When expecting Federal Gov't to pay more for infrastructure, they forget that is our tax dollars

- <http://www.concreteproducts.com/news/11659-report-measures-federal-agencies-stepped-up-role-in-water-infrastructure.html#.XMiJd3dFyUk>
- <https://www.bluefieldresearch.com/ns/federal-government-25b-critical-dollars-water-infrastructure/>

Is a highway (with bridges & tunnels) across the Himalayas really necessary?

- <https://brandsanews.com.au/meet-the-civil-engineer-building-worlds-highest-railway-bridge-in-himalayas/>

Addressing the “carbon footprint” of concrete rather than just how much concrete is used & the significant environmental impacts

- <https://www.engineering.com/BIM/ArticleID/19019/Much-Ado-About-Concrete.aspx>

Perspective: Proposed Rosemont copper mine in Santa Rita Mtns in Arizona – potential impacts

- <https://www.nationalgeographic.com/environment/2019/04/rosemont-copper-mine-arizona-environmental-impact/>

State of Texas subsidizes energy production with \$2B-\$3B each year – most goes to fossil fuels

- <https://www.nrdc.org/onearth/you-cant-stop-wind-these-folks-are-trying-anyway>
- Full Cost of Electricity:
https://energy.utexas.edu/sites/default/files/UTAustin_FCe_Exe_Summary_2018_09_19.pdf

Nuclear waste continues to pile up – new techniques for temporarily storing it?

- <https://www.npr.org/2019/04/30/716837443/as-nuclear-waste-piles-up-private-companies-pitch-new-ways-to-store-it>

African Swine fever has resulted in culling a million pigs so far – China, Mongolia, Vietnam & Cambodia

- <https://www.popsoci.com/african-swine-fever-science>
- <https://www.msn.com/en-us/money/markets/pig-ebola-virus-sends-shock-waves-through-global-food-chain/ar-AAOYK>

Buried and submerged for 3 years not long enough for single-use “biodegradable” & “compostable” plastic bags to decompose

- <https://www.treehugger.com/plastic/heres-what-happens-eco-friendly-plastic-bags-after-3-years-sea-or-soil.html>
- <http://www.sci-news.com/othersciences/materials/biodegradable-bags-07139.html>

Portions of San Francisco Bay area sinking at rates of 10 mm or more per year increasing flood risk

- <https://www.enr.com/articles/46789-study-finds-san-francisco-bay-is-sinking-faster-than-expected>

Pesticides in St Lawrence River at levels higher than threshold to protect aquatic species – glyphosate & atrazine in more than 80% of samples

- <https://www.ehn.org/pesticides-are-all-over-the-st-lawrence-river-many-at-levels-that-hurt-fish-and-invertebrates-2635826209.html>

Tourists flocking to see glaciers mean more business – but also environmental harm

- <https://ensia.com/features/melting-glaciers-tourism-impacts/>

80+% of waste from O&G drilling stays in Pennsylvania

- <https://www.ehn.org/more-than-80-percent-of-waste-from-pennsylvanias-oil-and-gas-drilling-stays-in-the-state-report-2635283061.html>

New York Legislature approved measures to crackdown on hundreds of potentially harmful chemicals in toys, household items & baby products – failed to include 1,4 dioxane

- <https://www.timesunion.com/news/article/Legislature-moves-to-protect-kids-from-harmful-13807543.php>

Potential antidote to venom of box jellyfish *Chironex fleckeri* – one of the most potent venoms

- <http://www.sci-news.com/medicine/box-jellyfish-antidote-07146.html>

Global atlas reveals human influence on drought started a century ago

- <https://arstechnica.com/science/2019/05/human-influence-on-drought-started-a-century-ago/>
- http://www.spacedaily.com/reports/NASA_Study_Human_Influence_on_Global_Droughts_Goes_Back_100_Years_999.html

US BSEE finalizes improved Blowout Preventer & Well Control regulations

- <https://www.bsee.gov/newsroom/fact-sheets/blowout-preventer-systems-and-well-control-rule-proposed-revisions>
- <https://www.bsee.gov/guidance-and-regulations/regulations/regulatory-reform/bsee-well-control-rule-2019>

Tibetan antelope being killed illegally to make *shahtooshes* which sell for \$20K

- <https://www.nationalgeographic.com/animals/2019/04/tibetan-antelope-killed-to-make-luxury-scarves/>

Man crosses safety barrier, falls 300 feet into Kilauea volcano, had to be rescued

- <https://news.yahoo.com/man-plummets-off-300-foot-202237982.html>

Do soil additives add to soil fertility?

- http://www.seeddaily.com/reports/Do_additives_help_the_soil_999.html

River wildlife contain cocaine, pharmaceuticals and pesticides present in water as micropollutants

- <https://phys.org/news/2019-05-river-wildlife-cocaine-pharmaceuticals-pesticides.html>

Maryland DNR investigating death of 7 bald eagles – likely result of intentional poisoning of foxes, raccoons and other “nuisance” animals

- <https://www.msn.com/en-us/news/us/officials-probe-mysterious-poisoning-deaths-of-7-bald-eagles/ar-AAAPfMp>

Midwest flooding approaching & exceeding 1993 levels

- <https://www.msn.com/en-us/weather/topstories/flood-approaching-and-topping-1993-levels-in-some-places/ar-AAANZUr>

Seeking federal funds for Merrimack River infrastructure – 800M gallons of untreated sewer & stormwater runoff in 2018 – Stop Sewage Overflow Act

- http://www.lowellsun.com/news/ci_32603289

Air Force estimates \$420M needed to rebuild flood-damaged Offutt AFB in Nebraska

- <https://www.apnews.com/098114673f2445f190a674331ba52278>

Amsterdam proposes banning all but electric cars from the city by 2030 – sets “environmental zones”

- <https://www.dutchnews.nl/news/2019/05/amsterdam-brings-in-bizarre-plan-to-ban-all-but-electric-cars-by-2030/>

US-Mexico Border ranches stricken by fever ticks – 950,000+ acres under quarantine

- <https://www.drovers.com/article/us-mexico-border-ranches-stricken-fever-ticks>

Data shows prevalence of tick populations in Pennsylvania has shifted

- <https://www.sciencedaily.com/releases/2019/05/190503080611.htm>

California delta diversion tunnel project reduced to just one tunnel – restart planning – price tag unknown

- <https://apnews.com/42964ecbd904409392551d8fdd67ca58>

Calculating the most cost-effective conservation – expand or improved protected area management?

- <https://phys.org/news/2019-04-cost-effective.html>

Chemical plant explosion in Waukegan, Illinois, sends 4 to hospital – cause under investigation

- <https://www.msn.com/en-us/news/us/4-hospitalized-after-waukegan-chemical-plant-explosion/ar-AAASH8k>

Minnesota River – once pristine & now a sewer

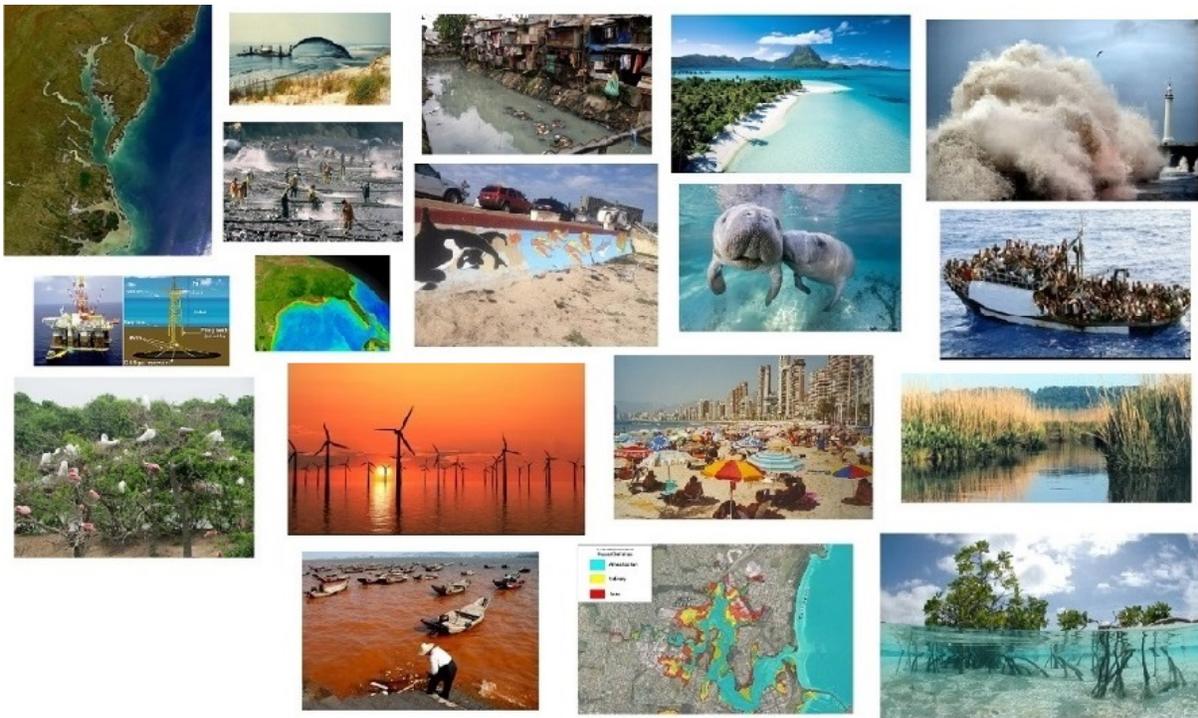
- <http://www.startribune.com/from-superstar-to-sewer-the-path-of-the-minnesota-river/509457182/>

First UN global assessment of state of Nature – humans want more – “fix” Nature – but Nature is not broken

- http://www.terradaily.com/reports/How_to_fix_Nature_and_avoid_human_misery_UN_report_999.html
- Global Environment Outlook 6: <https://www.unenvironment.org/resources/global-environment-outlook-6>
- http://www.spacedaily.com/reports/Overfishing_risks_ocean_deserts_as_stocks_plummet_999.html

\$10.7M in public-private support for Big Game Migration Corridors

- <https://www.doi.gov/pressreleases/secretary-bernhardt-announces-107-million-public-private-support-big-game-migration>



Coastal Zone Management Bulletin Board – 6 May 2019 – compiled by Elaine J. Hanford

Tapping into fresh water resources beneath the world oceans may have significant consequences

- <https://www.sciencedaily.com/releases/2019/05/190502143408.htm>

Energy Revenues for GOMESA increase by almost \$27M; funds(\$214.9M) dispersed for coastal conservation & hurricane protection projects

- <https://www.doi.gov/pressreleases/interior-fy-2018-energy-revenues-gomesa-climb-2149-million-funds-will-support-coastal>

New oil terminal in Plaquemines Parish would compound coastal damage

- <https://www.nola.com/opinions/2019/04/new-oil-terminal-in-plaquemines-would-compound-coastal-damage.html>

State of Maine seeking to fund projects to improve coastal infrastructure

- <https://www.wabi.tv/content/news/Maine-eyes-projects-to-improve-coastal-infrastructure-509192351.html>

Significant conditions may be imposed on Marina Drive project approval in Long Beach, California

- http://www.gazettes.com/news/environment/coastal-commission-staff-puts-significant-conditions-on-marina-drive-approval/article_30c7e176-69e2-11e9-ab6e-53887f9c5dc9.html

GAO reviewed US Army COE projects – focus on costs & damage reduction benefits using natural infrastructure

- <https://www.gao.gov/products/GAO-19-319>
- Report: <https://www.gao.gov/assets/700/698019.pdf>

Increase in number of Manatees in North Carolina waters – a recovery signal

- Part 2: <https://www.coastalreview.org/2019/04/more-manatees-in-nc-waters-signal-recovery/>
- Part 1: <https://www.coastalreview.org/2019/04/springtime-brings-fla-manatees-to-nc/>

Digital coastal mapping may facilitate preparation for storms & floods

- <https://patch.com/maryland/annapolis/digital-coastal-mapping-seen-way-prepare-floods-storms>

Study demonstrates potential effectiveness of seagrass in curbing erosion

- <https://phys.org/news/2019-05-seagrass-strong-potential-curbing-erosion.html>

Two coastal restoration projects recognized by Alabama officials 9 years after Deepwater Horizon spill

- <https://www.al.com/news/2019/04/nine-years-after-deepwater-horizon-disaster-alabama-officials-recognize-two-coastal-projects.html>

15-episodes to chronicle history of the California Coastal Commission & its impact

- https://news.berkeley.edu/story_jump/the-story-behind-californias-powerful-coastal-commission/
- <http://www.lib.berkeley.edu/libraries/bancroft-library/oral-history-center/projects/coast>

Basking sharks are swimming in waters off Ventura, California – that is a good thing

- <https://www.vcstar.com/story/news/special-reports/outdoors/2019/05/01/sharks-ventura-california-coast-reported-basking-sightings-increase/3556886002/>

“Miss May” – 10-foot great white shark pinged off coast of Melbourne, Florida

- <https://www.floridatoday.com/story/news/local/2019/04/30/great-white-shark-miss-may-pings-off-melbourne/3635005002/>

- <https://www.clickorlando.com/news/mako-shark-great-white-shark-ping-off-the-coast-of-melbourne-a-day-apart>

Bureau of Ocean Energy Management taking steps toward lease for California offshore wind development

- <https://www.nrdc.org/experts/sandy-aylesworth/offshore-wind-california-advancements-north-coast>

Pods of bottlenose dolphin spotted off Cape May Coast, New Jersey

- <https://www.app.com/story/news/local/animals/2019/05/01/huge-pods-bottlenose-dolphin-spotted-off-new-jersey-coast/3640109002/>

Perspective: Limits on Rockweed harvesting help protect coast of Maine

- <https://www.pressherald.com/2019/04/30/commentary-limits-on-rockweed-harvest-will-help-protect-maines-coast/>

“Operation Drumbeat” brought WWII to the US Atlantic coast

- https://www.beacononlinenews.com/arts_and_entertainment/the-u-boat-war-off-florida-s-coast/article_56c5b586-6c2d-11e9-9cbd-7792d634de51.html

Hurricane Preparedness Week 5-11 May – tips on preparing for 2019 season (video)

- <https://wtkr.com/2019/05/01/tips-to-prepare-for-the-upcoming-hurricane-season-on-coast-live/>

Ocean pools making a resurgence

- <https://www.theguardian.com/environment/2019/apr/13/ocean-pools-could-make-a-comeback-and-not-just-for-their-seductive-beauty>

Brief storm caused dangerous rip currents on Lake Michigan that later caused deaths of 7 people

- <https://www.sheboyganpress.com/story/news/2019/04/29/storm-induced-waves-meteotsunamis-caused-lake-michigan-drownings/3473838002/>

USGS sea turtle researchers headed back into the field as nesting season begins in Florida

- <https://www.usgs.gov/news/after-hurricane-devastation-sea-turtle-scientists-rebound-help-rebuild>

Coral reef barriers provide flood protection for people and coastal infrastructure & economic activity

- <https://www.usgs.gov/news/coral-reef-barriers-provide-flood-protection-more-18000-people-and-18-billion-worth-coastal>
- USGS OFR: <https://pubs.usgs.gov/of/2019/1027/ofr20191027.pdf>

Inspection protocol designed to maintain safety for workers on offshore rigs & platforms

- https://www.theadvocate.com/baton_rouge/opinion/article_cfd1e0c6-6c46-11e9-b146-0355bf8f3ef3.html

Newly recognized coastal process impacts nutrients for coastal marine ecosystems

- <https://www.sciencedaily.com/releases/2019/05/190502143536.htm>